

Remarks

Claims 1-37 and 43-55 are pending. Claims 1-37, 43, and 47-55 are rejected. Claims 44-46 are allowed.

Claims 1-11, 14-15, 21 and 47-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No. 5,898,904) in view of Pester, III (U.S. Patent No. 5,475,732), hereinafter, Pester. Claims 12-13, 16-20, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Pester, as above, further, in view of Rai et al. (U.S. Patent No. 6,577,643), hereinafter, Rai. Claims 22-26 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Pester and Rai, further in view of Doty et al. (U.S. Patent No. 6,795,863), hereinafter, Doty. Claims 30, 32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Pester, further in view of Feuerstein et al. (U.S. Patent No. 6,141,565), hereinafter, Feuerstein. Claims 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Pester, further in view of Marinho et al. (U.S. Patent No. 6,738,637) hereinafter, Marinho. Claims 36, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Pester, further in view of Zendle (U.S. Patent No. 6,757,268), hereinafter, Zendle. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No. 5,898,904) in view of Pester, III (U.S. Patent No. 5,475,732), hereinafter, Pester, as above, further in view of Blakeney, II et al. (U.S. Patent No. 5,640,414), hereinafter, Blakeney.

Claim 1 provides a communication system including a plurality of subscriber units, a plurality of access points and a plurality of distribution points. Each subscriber unit sends and receives information packets using a wireless communication link. Each access point forms a coverage area for exchanging information packets with subscriber units within the coverage area through at least one wireless communication link. Each distribution point is in communication with at least one access point and with at least one additional distribution point. Each distribution point receives an information packet for distribution to a destination

within the communication system and determines if the information packet destination is to one of the plurality of subscriber units within the coverage area of an access point in communication with the distribution point. If so, the information packet is forwarded to the access point defining the coverage area containing the subscriber unit. If not, the information packet is forwarded to one of the additional distribution points in communication with the distribution point.

Examiner rejected claim 1 as an obvious combination of Wang and Pester. Examiner identifies Wang's base stations (1003, 1004) as Applicants' distribution points and Wang's high power transmitters (1021 and 1025) as Applicants' access points. (Office Action, August, 4, 2006, pgs. 2-3). Examiner, however, implicitly admits that Wang's base stations are not Applicant's "distribution points" by relying on Pester rather than Wang:

Applicant argues that Wang neither teaches nor suggests Applicant's "distribution points".

In response, Examiner states the Pester discloses "STP1, STP2, STP3 and STP4 as Signal Transfer Points (distribution points), refer to fig. 1, col. 4 lines 11-15.

Office Action, August 4, 2006, pg. 15.

Moreover, Examiner fails to cite to any disclosure indicating that Pester's "Signal Transfer Points" are

in communication with at least one access point and with at least one additional distribution point, each distribution point operative to

(a) receive an information packet for distribution to a destination within the communication system,
...

(c) forward the information packet to the access point defining the coverage area containing the subscriber unit if the information packet destination is to one of the plurality of subscriber units within the coverage area of the access point in communication with the distribution point, and

(d) forward the information packet to one of the additional distribution points in communication with the distribution point if the information packet destination is not to one of the plurality of subscriber units within the coverage area of the access point in communication with the distribution point

as required by claim 1. Rather, Examiner cites to Wang to find the above elements. Wang's base stations, however, do not perform the functions claimed for Applicants' distribution points.

Wang discloses a paging system that has two subnetworks, a control subnetwork and a data subnetwork:

A two-way data network includes a broadcast control sub-network and a cellular data sub-network. The broadcast control sub-network includes a few **high-power radio transmitters** broadcasting into a large service area. The cellular data sub-network covers the large service area by a number of **base stations** each servicing a relatively small area. The wireless terminals of the two-way data network monitors the messages in a broadcast control channel at pre-assigned periodic time slots and remain in "sleep" mode at other times. A packet radio transceiver in the wireless terminal sends data to, and receives data from, the cellularized base stations. The broadcast control sub-network is used to notify the subscriber the receipt of a message. In responding to the notification, the location of the subscriber's wireless terminal is make known, thereby eliminating conventional tasks such as location and mobility management tasks and allowing wireless terminals to be low power. Communication between the cellular base stations and the wireless terminals achieves high data rate, low latency and high capacity.

Abstract.

The base stations and high power transmitters are part of different subnetworks. High power transmitters are used in a one-way, broadcast only network that is used to broadcast control messages. The control messages are used to notify wireless terminals of pending two-way communication:

When not engaged in two-way data communication, these wireless terminals monitor only the broadcast channel for the control messages. Thus, in a wireless terminal, the remainder of the circuits, other than the receiver for the broadcast channel, can be placed in a sleep mode until data communication begins. Thus, power efficient operations using a small battery power source can be provided.

Col. 5, ll. 54-60.

Only the base stations participate in two-way data communication network.

In contrast, Applicants' distribution points forward information packets to an access point in communication with the distribution point if a subscriber unit is in the coverage of that access point. Mapped into Examiner's construction for Wang, Wang's base station would have to send a packet to a high power transmitter in communication with that base station if a wireless terminal was within range of the high power transmitter. This is not the system disclosed in Wang.

Applicants' distribution points also "receive an information packet for distribution to a destination within the communication system" and "forward the information packet to the access point defining the coverage area containing the subscriber unit if the information packet destination is to one of the plurality of subscriber units within the coverage area of the access point in communication with the distribution point." Examiner's support for forwarding a packet from a distribution point to an access point is "col. 10 lines 53-58," which states:

Further, like two-way wireless data network 300, two-way paging network 1000 is scalable to the size of service area and the number of subscribers. Thus, the capital investment is made incremental as the subscriber base grows. For example, base stations 1003 and 1004 can be added as the subscriber base grows.

Col. 10, ll. 53-58.

Under Examiner's construction, the fact that, in Wang, further distribution points (base stations) can be added does not teach or suggest forwarding packets from the distribution points (base stations) to the access points (high power transmitters). Examiner implicitly agrees with Applicants' position by relying on Pester rather than Wang:

In response, Examiner states the **Pester** discloses, "investigate possible routings to get to 255 or EO4-----puts that message on the A link to EO4", refer to col. 5 lines 10-17.

Office Action, August, 4, 2006, pg. 16.

Even if Pester does teach or suggest forwarding packets from the distribution points to the access points, Examiner fails to provide any reasons as to why one of ordinary skill would be motivated to combine the references. Moreover, as explained below, Wang and Pester concern different technologies and as such, one of ordinary skill would not be able to combine Wang and Pester to find Applicants' invention.

Applicants' distribution points "determine if the information packet destination is to one of the plurality of subscriber units within the coverage area of an access point in communication with the distribution point." Examiner asserts that this limitation is disclosed in Pester:

Assuming that the message goes to STP1, STP1 would look at the message and determine that the message was not for it as an STP but rather is for EO4. STP1 would then investigate possible routings to get to 255 or EO4. B and D links are available and STP1 would choose one of the two. Assuming that it chooses the B link to STP3, STP3 repeats the same procedure. It determines that the message is for 255 or EO4 and puts that message on the A link to EO4.

Col. 5, ll. 10-17.

This passage neither teaches nor suggests Applicants' distribution points. Applicants distinguish between distribution points and STPs of an SS7 network with reference to Figure 3:

Communication system 20 includes wireless service location registers (WSLRs) 200 providing common subscriber and service databases. Each WSLR 200 communicates with at least one distribution point 40 and one additional communication system 52.

Pg. 16, ll. 23-36.

Communication system 20 may also include gateway 220 interfacing communication system 20 with external SS7 network 52 represented by signal transfer point (STP) 222. Gateway 220 communicates with STP 222 through ISUP compliant connection 224 which permits setting up and taking down trunk calls, calling party information services, call status, and the like, by passing signaling information through SS7 network 52 to wireline provider 208 under the control of integrated services control point (ISCP) 226.

Pg. 17, l. 25 - pg. 18, l. 2.

Examiner also asserts, without explanation, that "[t]his capability can be combined within the distribution point, as taught by Pester." (Office Action, August 4, 2006, pg. 4). Pester, however, cannot be combined with Wang to yield Applicants' invention. Pester provides

a public switched telephone network [PSTN] and the SS7 network that is used to control the signaling for the switched network. Thus an analog switched telephone network is generally indicated at 10 having a common channel signaling network in the form of an SS7 network generally at 12.

Col. 3, ll. 42-47.

Signaling System 7 (SS7) is a set of signaling protocols used to set up PSTN, or circuit-switched, calls. A circuit switched network establishes a dedicated circuit (or channel)

between nodes and terminals before users can communicate. A separate control channel may be used to establish the connection and monitor its progress and termination as in the case of links between telephone exchanges which use SS7 to communicate call setup and control information. Pesters describes a situation where a call over an analog switched telephone system is being set up. Applicants' invention is directed to cellularized packetized voice and data. Pester's STPs are not analogous to Applicants' distribution points as different technologies are at issue.

Examiner further asserts that "[t]he suggestion/motivation to do so would have been to provide convenience of access by users." (Office Action, August 4, 2006, pg. 4). Applicants' Attorney is unclear as to Examiner's meaning, e.g., Access to what?; How does determining if the information packet destination is to one of the plurality of subscriber units within the coverage area of an access point in communication with the distribution point provide convenience? Pester teaches away from Applicants' invention, as explained above, as Pester discloses an analog switched telephone network that uses the SS7 network to control signaling. (Col. 3, ll. 42-47). Wang is directed to a two-way wireless network having a transmitter having a range greater than portions of the service area. (Title). One of ordinary skill would not have been motivated to combine Wang with Pester.

Examiner has failed to find Applicants' invention of claim 1 disclosed in Wang and Pester. Claim 1 is patentable. Claims 2-37, which depend from claim 1, are therefore also patentable.

Claim 47 provides a distribution point for use in a communication system including a plurality of networked distribution points. The distribution point includes at least one frond end communication interface, at least one back end communication interface and an intelligent packet switching device. Each front end interface communicates with an access point in wireless communication with subscriber units currently assigned to the distribution point. Each back end is in communication with a back haul communication device transferring packets with a back haul communication device in another of the plurality of networked

distribution points. The intelligent packet switching device determines a destination for each received packet and determines if the destination is to a subscriber unit currently assigned to the distribution point. The packet is sent to the subscriber unit if the subscriber unit is currently assigned to the distribution point. If the destination is not to a subscriber unit currently assigned to the distribution point, the switching device determines if the destination is to a subscriber unit currently assigned to any other distribution point in the communication system. If the subscriber unit is currently assigned to any other distribution point in the communication system, the switching device identifies another distribution point in back haul communication with the distribution point to which the packet should be forwarded and forwards the packet to the identified distribution point.

Examiner used the same construction to reject claim 47 that Examiner used in rejecting claim 1. Although these claims have different scope, the same arguments used in claim 1 apply. Moreover, Examiner fails to cite any teaching of Applicants' intelligent packet switching device as required by claim 47.

Examiner has failed to find Applicants' invention of claim 47 disclosed in Wang and Pester. Claim 47 is Patentable. Claims 48-55, which depend from claim 47, are therefore also patentable.

Claim 43 provides a communication system including a plurality of distribution points, a plurality of subscriber units and a supervisor. Each distribution point is in communication with at least one additional distribution point in the plurality of distribution points. Each distribution point is operative to route information packets. Each subscriber unit is operative to communicate information packets to a destination subscriber unit through at least one distribution point in the plurality of distribution points. The supervisor identifies the distribution point with which each subscriber unit is communicating and provides each distribution point with a listing of to which of the at least one additional distribution point in communication with the distribution point information packets should be forwarded for each

possible destination distribution point, the listing based on maintaining a minimum quality of service in a path to the destination distribution point.

Examiner rejected claim 43 as an obvious combination of Wang, Pester, and Blakeney. Examiner used the same arguments to reject claim 43 that Examiner used in rejecting claim 1. Although these claims have different scope, the same arguments used in claim 1 apply. Additionally, Examiner fails to cite any teaching that the listing is based on maintaining a minimum quality of service in a path to the destination distribution point as required by claim 43. Examiner also fails to cite any motivation to combine the references as examiner's explanation is directed to limitations not found in claim 43 and art not cited against claim 43. Moreover, the references cannot be combined to yield Applicants' invention, as explained above, as different technologies are at issue.

Examiner has failed to find Applicants' invention of claim 43 disclosed in Wang, Pester, and Blakeney. Claim 43 is patentable.

Applicants' Attorney believes the claims are in a condition for allowance. Applicants' Attorney respectfully requests a notice to that effect. Applicants' Attorney also invites a telephone conference if Examiner believes it will advance the prosecution of this case.

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Respectfully submitted,

ANGUS O. DOUGHERTY ET AL.

By 

Benjamin C. Stasa

Reg. No. 55,644

Attorney for Applicants

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BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351